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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,583	01/23/2006	Henk van de Weg	A0004/US	2674

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KRATON POLYMERS U.S. LLC
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EXAMINER

RABAGO, ROBERTO

ART UNIT	PAPER NUMBER
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1713

MAIL DATE	DELIVERY MODE
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06/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/565,583

Applicant(s)

WEG ET AL.

Examiner

Roberto Rábago

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. Claims 11-16, 23-26 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winkler (US 3,700,748) for the reasons set forth in item 2 of the Office action mailed 12/28/2006.

Applicant's arguments filed 3/28/2007 have been fully considered but they are not persuasive. Applicants' characterization of Winkler's description regarding degree of hydrogenation is not contested, and it was this basis which was used to interpret the Winkler disclosure in the prior rejection. Winkler describes a hydrogenation process "to remove substantially all unsaturation in the pendant vinyl groups and no more than about 50% of the unsaturation in the 1,4-structured portions." In contrast, applicant's claims are understood to require that at least 30% of the diene monomer units present in the polymer maintain the 1,4 double bond after hydrogenation. However, even considering this difference in description of the hydrogenated polymer, the disclosure of Winkler provides a substantial range of polymers for which applicants' range of 1,4 unsaturation would be met. Specifically, Winkler discloses that the starting resin should have 8-80% 1,2 structure, with the balance of 20-92% 1,4 structure. Therefore, for all resins of 60-80% 1,4 structure, the expected outcome of the reference process would be a partially hydrogenated polymer within the scope of applicants' claims, having substantially all pendant vinyl groups hydrogenated, and at least 30% of the diene monomer units present in the polymer would have the 1,4 double bond after

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hydrogenation. The use of an iron catalyst has been clearly suggested among a named group of only three metals. Applicants' assertion that "no selectivity is disclosed or suggested by the Winkler reference" is baseless. The entire foundation of the reference disclosure, as repeatedly stated by Winkler, is the obtaining of "selectively hydrogenated block copolymers" (see title), and Winkler furthermore claims a method of selective hydrogenation.

Returning to applicants' comparative examples, it is noted that the polymer selected includes 53.4% 1,4 content; therefore, even if the exact method of the reference had been repeated, the residual level of 1,4 content would be expected to be below 30% (as a percentage of diene monomer units in the polymer) if 50% of the 1,4 units were hydrogenated by the process. Applicants' resin sample fails to provide a showing of unexpected results, for the following reasons. First, applicants do not appear to have reasonably replicated the method of the reference, because they have reported comparative examples which are far more destructive to the 1,4 bond than the method described in the reference (i.e., much greater than 50% hydrogenation of the 1,4 bond); furthermore, this single data point using the resin having 53.4% 1,4 content cannot be expanded to cover the entire range of resins recommended by Winkler. As previously stated, starting with a resin of at least 60% 1,4 content would be expected to result in the claimed residual 30% 1,4 content after hydrogenation merely by following the disclosed and claimed method of Winkler.

Regarding the presence of lithium alkoxide, it is noted that the method shown in Winkler reports adding 31 mmoles of lithium compound as a catalyst for making the

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resin, then reports using 6 mmoles of Ni compound as hydrogenation catalyst; therefore, even if all of the lithium remained as an alkoxide, the Li/Ni ratio would be far below the claimed maximum of 20.

2. Claims 17-22 and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winkler (US 3,700,748) in view of Willis et al. (US 4,396,761) for the reasons set forth in item 3 of the Office action mailed 12/28/2006.

Applicant's arguments filed 3/28/2007 have been fully considered but they are not persuasive. Applicants argue that the reference fails to disclose the absence of an oxidizing agent, further stating that oxygen from air was present in method of Willis. The limitation "in the absence of an oxidizing agent" is understood to exclude the presence of an agent which would oxidize at least one component used in the method. There is nothing in the reference which would indicate that any oxidation reaction has occurred. Furthermore, even if oxygen were an oxidant for a method component, there is no basis to conclude that oxygen was present in the reference method. Organic chemists are well versed in the routine use of equipment and procedures to isolate reactions from extraneous interference from atmospheric oxygen or moisture, and the mere lack of description of such elementary laboratory procedures does not indicate that oxygen was present.

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3. Claim 33 is objected to as being a duplicate of claim 14. Although the claim is phrased as an independent claim, the wording and scope are identical with claim 14 which depends from claim 11.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

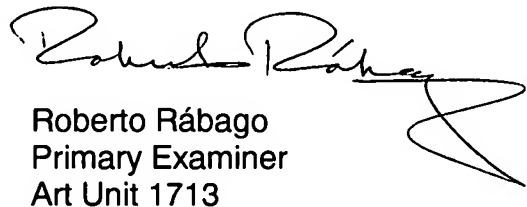
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberto Rábago whose telephone number is (571) 272-1109. The examiner can normally be reached on Monday - Friday from 8:00 - 4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Roberto Rábago
Primary Examiner
Art Unit 1713

RR
June 9, 2007